

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-028203**Date Inspected:** 18-Aug-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Jobsite**CWI Name:** Berry Drake**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG 13 / 14 West**Summary of Items Observed:**

On this date, Quality Assurance Inspector (QAI) Robert A. DeArmond was present at the San Francisco Oakland bay Bridge job site at Yerba Buena Island to observe erection and welding activities for the San Francisco Oakland Bay Bridge (SFOBB) project. This Quality Assurance Inspector (QAI) observed the following work performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below:

13WEST

A). (R1) PP 120.5 SEG3014H (K-Plate Stiffener Splice) SPCM

B). PP 120.5 SEG3014H (Plate Stiffener to K-Plate) 485 HPS-Steel FCW

C). PP122.2 Flange Plate to Stiffener Plate (485 HPS)

A). (R1) PP 120.5 SEG3014H (K-Plate Stiffener Splice) SPCM

The QAI observed that welder 5892-Richard Garcia, was welding fill and cover pass weld at PP 120.5 SEG3014H K-Plate Stiffener Splice in the flat (1G) position. This QAI observed these parameters as defined in Welding Procedure Specification WPS-ABF-WPS-D15-1000-Repair. The QC inspector John Hayes verified the fit-up for this location and found it to be acceptable, this information was relayed to the QAI. The welder then continued pre-heat throughout the area during welding using a propane type weed burner at 40 degrees Celsius (150 degrees F) which was verified using a tempilstik and infrared gun by the QC. The welder was using the Shielded Metal Arc Welding (SMAW) electrode E7018 for the Complete Joint Penetration (CJP) weld in the flat (1G) position with 3.2 mm electrode with 127.5 amps. The welder utilized a power grinder and power wire wheel for the interpass cleaning. The QC inspector for this location was John Hayes and was observed verifying and documenting the welding parameters for this location, along with overseeing the welding operations. At the time

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METS observation was performed. No issues were noted by the QAI

### B). PP 120.5 SEG3014H (Plate Stiffener to K-Plate) 485 HPS-Steel FCW

The QAI observed that welder 5892-Richard Garcia, was welding multi-Pass welds at PP 120.5 SEG3014H (Plate Stiffener to K-Plate) HPS-Steel FCW in the horizontal (2G) position. This QAI observed these parameters as defined in Welding Procedure Specification WPS-ABF-WPS-D15-1052B (2G). The QC inspector John Hayes verified the fit-up for this location and found it to be acceptable, this information was relayed to the QAI. The welder then continued pre-heat throughout the area during welding and 1-hour PWHT following weld completion, using a heat rack at 107 degrees Celsius (225 degrees F) which was verified using a tempilstik and infrared gun by the QC. The welder was using the Shielded Metal Arc Welding (SMAW) electrode E7018 for the Complete Joint Penetration (CJP) weld in the vertical (2G) position with 3.2 mm electrode with 128.4 amps. The welder utilized a power grinder and power wire wheel for the interpass cleaning. The QC inspector for this location was John Hayes and was observed verifying and documenting the welding parameters for this location, along with overseeing the welding operations. At the time METS observation was performed. No issues were noted by the QAI

The welder was grinding the starts and stops between weld layers to a bright metal. The location was still in process at the end of this QAI's shift

### C). PP122.2 Flange Plate to Stiffener Plate (485 HPS)

The QAI observed that welder 6235-Jose Torres, was welding multi-Pass welds at PP 122.2 Flange Plate to 485 Stiffener Plate in the overhead (4G) position. This QAI observed these parameters as defined in Welding Procedure Specification WPS-ABF-WPS-D15-1162-4. The QC inspector Barry Drake verified the fit-up for this location and found it to be acceptable, this information was relayed to the QAI. The welder then continued pre-heat throughout the area during welding using a propane type weed burner at 40 degrees Celsius (150 degrees F) which was verified using a tempilstik and infrared gun by the QC. The welder was using the Shielded Metal Arc Welding (SMAW) electrode E9018 for the Partial Joint Penetration (PJP) weld in the overhead (4G) position with 3.2 mm electrode with 121.5 amps. The welder utilized a power grinder and power wire wheel for the interpass cleaning. The QC inspector for this location was Steve Jenson and was observed verifying and documenting the welding parameters for this location, along with overseeing the welding operations. At the time METS observation was performed. No issues were noted by the QAI

The welder was grinding the starts and stops between weld layers to a bright metal. The location was still in process at the end of this QAI's shift

### QA Observation and Verification Summary

The QA inspector observed the QC activities and the welding utilizing the WPS's as noted above, which appeared to be posted at the weld station. The welding parameters and surface temperatures were verified by the QC inspectors utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The consumables utilized for the welding process stated appeared to comply with the AWS Specification and AWS Classification. The QC inspection, testing and welding performed on this shift appeared to be in general compliance with the contract documents. At random intervals,

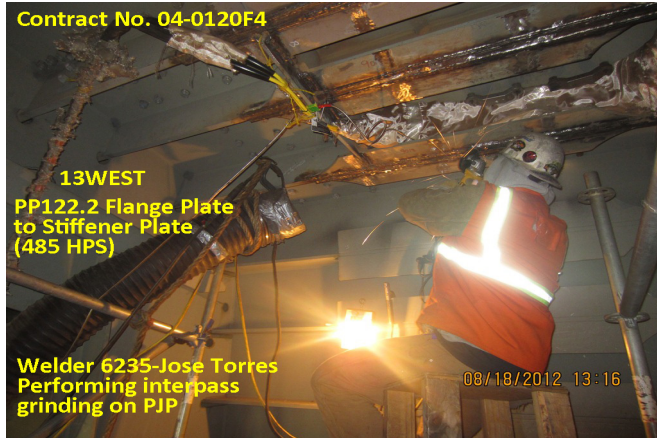
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the QAI verified the QC inspection, testing, welding parameters and the surface temperatures utilizing various inspection equipment and gages which included a Fluke 337 Clamp Meter and Tempilstik Temperature indicators. Unless noted otherwise, all work observed on this date appeared to be in general compliance with the contract documents at the time of observations.



### Summary of Conversations:

As mentioned above between QA and QC concerning this project

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510 385 5910, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	DeArmond,Robert
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Quality Assurance Inspector
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<b>Reviewed By:</b>	Levell,Bill
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QA Reviewer
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